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Docket No. 00-8015
Application Serial No. 09/656,868

REMARKS

This amendment is responsive to the Office Action of July 26, 2004. Claims 1-36 were presented for examination and all claims were rejected. Claims 1, 17-18, 34 and 36 are amended. No claims are canceled or added. Claims 1-36 remain pending. Claims 1, 17-18 and 34-36 are independent claims.

The Examiner rejected claims 1-11, 13-14, 17-28, 30-31, and 35-36 under 35 U.S.C. § 103(a) as being unpatentable over Liu et al. (U.S. Patent No. 6,266,395) in view of Bell Telephone Laboratories ("Transmission Systems for Communications") (hereinafter "Bell"). The Examiner rejected claims 15-16, and 32-33 under 35 U.S.C. § 103(a) as unpatentable over Liu et al. in view of Bell and Millbrandt (U.S. Patent No. 6,633,545). The Examiner rejected claims 12, 29, and 34 under 35 U.S.C. § 103(a) as unpatentable over Liu et al. in view of Bell, Millbrandt, and Tennyson (U.S. Patent No. 6,466,647). Applicant respectfully traverses the rejection of all pending claims.

Applicant hereby amends independent claims 1, 17-18, 34, and 36 to improve form. No new matter is added. Support for the amendments to the claims can be found throughout the specification, claims and drawings of the application as originally filed. For example:

"Figs. 8 and 9 are graphs that illustrate calculated and measured insertion loss for loops 600 and 700, respectively. The measurements were taken in an ADSL test bed using twisted pair cables on spools. As shown by the figures, the match between the calculated and measured loss is fairly close, considering that the values of the physical constants R, L, C, and G given by the ISDN Standard, T1.601 may not exactly match the cable in the test bed." (specification page 10, lines 12-16, emphasis added).

"Then for an arbitrary customer loop, the device 300 may determine the loop's capacity and compare it to the equivalent capacity for a given length of a 26-gauge loop." (specification page 11, lines 10-12, emphasis added)

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“For example, the device 300, or one or more separate devices, may perform tests or simulations on straight 26-gauge loops of various lengths under various crosstalk conditions to determine ADSL performance. The device 300 may then use the performance data or record it in a memory, database, or table for later retrieval.” (specification page 13, lines 9-13, emphasis added)

“In one implementation consistent with the present invention, the test conditions for determining the ADSL performance of the straight 26-gauge cables include: 384 Kbps upstream against 24 ISDN lines; 64 Kbps upstream against 20 HDSL lines; and 1.5 Mbps downstream against 4 adjacent T1 lines.” (specification page 14, line 20 through page 15, line 3, emphasis added)

Thus, the claim amendments are supported by the application as filed. Also, see, for example, Fig. 10 comparing different, but equivalent, characteristics of “LOOP 600” with those of the “EQUIV. LOOP”; and, see original claims, e.g., claim 1 where “the existing telephone loop” is inherently different from “the equivalent loop”.

Clearly, a customer’s loop is inherently different from an equivalent loop. Furthermore, it is clear that Applicant’s equivalent cable or loop is a test cable or loop. Principal reference Liu et al. is deficient as a reference with respect to the claimed subject matter of all of Applicant’s claims because it does not disclose or suggest the “test loop different from the existing telephone loop” of independent claim 1, the recited “each of the other loops being a test loop” of independent claim 17, the recited “test loops different from the customer telephone loops” of independent claim 18, the recited “different, test loop” of independent claim 34, the recited “straight cable” vs. the recited “telephone line” of independent claim 35, or the recited “different, test loop” of independent claim 36. For example, consider claim 1:

A method for predicting digital subscriber line (DSL) performance on an existing telephone loop, comprising: obtaining a topological description of the existing telephone loop; identifying a test loop different from the existing telephone loop, the test loop being a straight loop of a particular length and a particular gauge and being equivalent to

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the existing telephone loop, as an equivalent loop, based on the topological description of the existing telephone loop; determining DSL performance for the equivalent loop; and predicting DSL performance for the existing telephone loop based on the DSL performance for the equivalent loop. (underline emphasis added)

Amended claim 1 now expressly recites what it had inherently claimed: the equivalent loop is a test loop and is different from the existing (customer) loop. By comparison, Liu et al. discloses nothing more than a method and apparatus for single-ended qualification of subscriber loops for xDSL services (Abstract). In other words, the reference determines the characteristics of existing, customer loops.

In the Office Action, page 2, numbered paragraph 2, in applying Liu et al. against claim 1, the Examiner refers to the following sections of Liu et al.: column 2, line 57 - column 3, line 40; column 6, lines 18-36; column 6, lines 32-36; and column 7, line 5 - column 11, line 26. In each of these passages, any reference to a loop is an explicit reference to a "subscriber" loop. In other words, Liu et al. is describing a method and apparatus for qualifying an existing loop which is in operation with a subscriber, i.e., a loop to which communication services have previously been subscribed (contracted-for) by a customer. Because each loop being described in Liu et al. is an existing, subscriber loop it cannot be Applicant's claimed loop which is a "different" loop based on topological data suggesting loop performance equivalent to that of the subscriber loop. Applicant's "equivalent loop" is a loop upon which tests can be run, as noted above, to obtain performance data that would be accurately reflective of performance of the subscriber loop to which it is equivalent, and in that sense it can be viewed as a test loop equivalent to that subscriber loop.

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In Lieu et al., in column 1, lines 15-20, it states:.....“*service providers....seek new technologies for delivering high -speed data services to their customers. One solution is provided by Digital Subscriber Line (DSL) technologies. Several DSL technologies offer high-speed services over EXISTING COPPER FACILITIES commonly referred to as “SUBSCRIBER LOOPS”* (emphasis added). Obviously, Liu et al. has defined “subscriber loops” as (1) existing and (2) being in service with customers.

Consider, for example, the largest section of the several sections in the reference to which the Examiner refers, namely: column 7, line 5 through column 11, line 26. Throughout this section, any reference to a “loop” (and, in this section, there are a large number of such references to “loop”) is preceded by the term “subscriber”. Thus, there is no other kind of loop being discussed in this section of the reference - only subscriber loops. In the Office Action, on page 11, paragraph 5, the Examiner relies on Liu et al. to disclose equivalent loops and, with all due respect, in Applicant’s opinion, makes an erroneous statement as follows: “*In the rejections above, it has been shown that Liu et al. discloses using a loop with a particular length and a particular gauge as an equivalent loop”* (emphasis added). Applicant respectfully disagrees, since the only loops disclosed in Liu et al are subscriber loops which the reference defines as being in service with customers and which therefore cannot be equivalent to subscriber loops. A subscriber loop is a subscriber loop and, by definition, cannot be EQUIVALENT to a subscriber loop.

Although additional separation of Applicant’s claimed subject matter from the disclosure of Liu et al. was not necessary prior to this instant amendment, because of the inherent difference between subscriber loop and equivalent, test loop as discussed above, Applicant has nevertheless

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amended claim 1. Amended claim 1 recites "test loop different from the subscriber loop", thereby clearly indicating that the equivalent loop is a test loop that is different from the subscriber loop. Liu et al. is deficient in that it does not disclose or suggest a different loop from its disclosed subscriber loop on which it is obtaining information to qualify it for xDSL services and, therefore, cannot disclose or suggest the subject matter of Applicant's amended claim 1.

The mere fact that Bell may disclose or teach a method of converting a loop containing bridge taps into a loop without bridge taps (a straight cable circuit) does not cure the deficiency in Liu et al. - it does not cure the lack of a teaching or a suggestion of a different loop (an equivalent or test loop) by which estimates of performance of the existing, subscriber loop can be made. Similarly, the other references cited, Millbrandt and Tennyson do not cure this deficiency in Liu et al.

Accordingly, claim 1 is not disclosed or suggested by any reasonable combination of any or all of the cited references and it is respectfully requested that the 35 U.S.C. § 103(a) rejection of claim 1 be withdrawn and the claim allowed. Dependent claims 2-16 depend, directly or indirectly, from claim 1 and they are allowable at least for reasons based on their dependency.

Independent claim 17, recites "each of the other loops being a test loop" as being the equivalent loop to the subscriber loop, and is allowable for the same or similar reasons as those given above.

Independent claim 18 recites "test loops different from the customer telephone loops" as being the equivalent loops to the subscriber loops, and is allowable for the same reasons as given above. Its dependent claims 19-33 are allowable, at least for reasons based on their dependency, directly or indirectly, from claim 18.

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Independent claim 34 recites “different, test loop” as being the equivalent loop to the subscriber loop, and is allowable for the same or similar reasons as those given above.

Independent claim 35 recites: “straight cable” (i.e., equivalent test loop) vs. “telephone line” (i.e., subscriber loop), and the above argument is applicable to claim 35 as well. The straight cable and the telephone line are two different loops and, therefore, this claim is allowable for the same or similar reasons as those given above.

Independent claim 36 recites “different, test loop”, as being the “equivalent loop” to the subscriber loop, and is allowable for the same or similar reasons as those given above.

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CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 07-2347 and please credit any excess fees to such deposit account. The Examiner is invited to telephone the undersigned at the telephone number provided below if he feels that a telephone conversation may serve to advance the prosecution of this application.

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